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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/926,432 | 12/31/2001 | Volker Von Drach | VOND3002/REF | 3103 |

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| EXAMINER |
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THOMPSON, CAMIE S

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| ART UNIT | PAPER NUMBER |
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1774

DATE MAILED: 01/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,432

Applicant(s)

DRACH ET AL.

Examiner

Camie S Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: ____

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DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-13, drawn to reinforcing fibers, additive for friction limiting, friction lining and gasket.

Group II, claim(s) 14-16, drawn to a process for producing reinforcing fibers.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Claim 1 is anticipated or obvious over U.S. Patent Number 5,232,779.

3. During a telephone conversation with Richard E. Fichter on October 28/2002 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-13. Applicant in replying to this Office action must make affirmation of this election. Claims 14-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

5. Claims 1-5, 7-8, 10-13 are objected to because of the following informalities: Claims contain the phrase "characterized in". Examiner suggests using the transitional phrase "comprising". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The phrase "and/or" in claims 1-3 and 6 is a relative phrase that renders the claims indefinite. The phrase "and/or" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The claims do not distinctly point out whether the fibers are reinforcing fibers or processing fibers. In addition, the claims do not point out whether there is a mixture of reinforcing fibers and processing fibers. Additionally, the claims

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refer to two different types of fibers. Reinforcing fibers and processing fibers are not necessarily the same. Applicant is claiming two (2) different inventions in the same claim, which is improper.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikuta, U.S. Patent Number 5,290,627.

Ikuta discloses a friction material for operating in oil containing 5-70% of fibrillated ramie fibers and 0-30% aramid fibers as per instant claims 1-5 and 9-11 (see column 1, lines 5-39, Table 1 and claim 1). The reference does not disclose that the fibers have a fibril content greater than 3 are percent and less than 50 area percent. However, since 5-70% of the fiber is fibrillated, it would only follow that 3-50 area percent would be included in Ikuta's range, although not specifically stated. Further, this is an optimizable feature. The fibril content increases the wear resistance. Discovery of optimum values of result effective variables involves only routine skill in the art in re Boesch, 617 F2. 2d 272, 205 USPQ 215 (CCPA). Therefore, it would have been obvious to one of ordinary skill in the art to use a fibril content between 3 and 50 area percent in order to increase the wear resistance of the fiber mixture.

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11. Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikuta, U.S. Patent Number 5,290,627 in view of Kolla et al., U.S. Patent Number 6,133,348.

Ikuta discloses a friction material for operating in oil containing 5-70% of fibrillated ramie fibers and 0-30% aramid fibers as per instant claims 1-5 and 9-11 (see column 1, lines 5-39, Table 1 and claim 1). The reference does not disclose that the fibers have a fibril content greater than 3 are percent and less than 50 area percent. However, since 5-70% of the fiber is fibrillated, it would only follow that 3-50 area percent would be included in Ikuta's range, although not specifically stated. Further, this is an optimizable feature. The fibril content increases the wear resistance. Discovery of optimum values of result effective variables involves only routine skill in the art in re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA). Therefore, it would have been obvious to one of ordinary skill in the art to use a fibril content between 3 and 50 area percent in order to increase the wear resistance of the fiber mixture.

The Ikuta reference does not disclose a mixture of vegetable fibers and shives. Kolla teaches a fiber reinforced resin composition wherein the fibers are flax shives and the shives are about 10 to 80 percent based on the weight of the composition (see column 2, line 8-49). The shives added to the bast fibers reduce the "balling up" of the fibers during processing. Therefore, it would have been obvious to have a weight fraction of 10% to 80% of shives in the mixture in order to reduce the "balling up" of the flax fibers during processing.

12. Claims 1, 9-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikuta, U.S. Patent Number 5,290,627 in view of DE 19815992.

Ikuta discloses a friction material for operating in oil containing 5-70% of fibrillated ramie fibers and 0-30% aramid fibers as per instant claims 1-5 and 9-11 (see column 1, lines 5-39, Table 1

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and claim 1). The reference does not disclose that the fibers have a fibril content greater than 3 are percent and less than 50 area percent. However, since 5-70% of the fiber is fibrillated, it would only follow that 3-50 area percent would be included in Ikuta's range, although not specifically stated. Further, this is an optimizable feature. The fibril content increases the wear resistance. Discovery of optimum values of result effective variables involves only routine skill in the art in re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA). Therefore, it would have been obvious to one of ordinary skill in the art to use a fibril content between 3 and 50 area percent in order to increase the wear resistance of the fiber mixture.

Although the Ikuta reference teaches friction material in oil, the reference does not disclose tin sulfide in the friction-lining additive. German patent DE 19815992 teaches the use of tin sulfide in the amount of 2-30% in a solid lubricant for the production of friction liner mixtures and friction liners (see abstract and reference claim 15). The addition of tin sulfide has a positive influence on the attrition behavior of the friction liners. Therefore, it would have been obvious to one of ordinary skill in the art to use tin sulfide in the amount of 2-30% in order to increase the wear resistance of the friction liners.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SENIOR PATENT EXAMINER
TECHNOLOGY CENTER 1700

